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ABSTRACT

The consequences of indexing the minimum wage to average wages in the U.S. economy were analyzed. The study data were drawn from the 1974-1978 May Current Population Survey (CPS) and the 180 monthly CPS Outgoing Rotation Group files for 1979-1993 (approximate annual sample sizes of 40,000 and 180,000, respectively). The effects of indexing on the minimum wage were analyzed, the beneficiaries of a higher minimum wage were identified, and the question of whether indexing satisfies the objectives of minimum wage policy was discussed. It was discovered that, had the minimum wage been linked to the average wage back in 1974, the minimum wage would have been seriously overindexed by 1994. The analysis of the impact of a higher minimum wage on specific groups revealed that children and other workers living with their parents would thus receive more than twice as much extra income as would all families dependent on a single minimum wage worker. Simple comparisons between the minimum wage and other wages in the economy were concluded to be simplistic. It was recommended that adjustments be made for changes in the composition of the work force (the baby boom generation has entered its prime earnings years; greater numbers of women have entered the workforce, working for lower wages than men; and more college degree holders with higher average wages have entered the work force) just as adjustments are made for inflation. (Contains 22 tables/figures and 15 references.) (MN)

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THE CONSEQUENCES OF INDEXING THE MINIMUM WAGE TO AVERAGE WAGES IN THE U.S. ECONOMY

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The Employment Policies Institute Foundation is a non-profit research organization dedicated to studying public policy issues surrounding employment growth. In particular, EPIF research focuses on labor and tax issues that affect entry-level employment levels. Among other issues, EPIF research has quantified the impact of new labor costs on job creation, explored the connection between entry-level employment and welfare reform, and analyzed the demographic distribution of mandated benefits. EPIF commissions non-partisan research which is conducted by independent economists at major universities around the country.

EXECUTIVE SUMMARY

Two consistent themes have echoed throughout the current debate over the future of the minimum wage: minimum-wage workers today have been left behind by the overall growth in wages; and, mandated wage increases are desirable because most minimum wage workers are adults and have families to support. Both of these assertions are based on simplistic views of the workforce. Neither stands up to close scrutiny, as this paper by David Macpherson and William Even demonstrates.

Have Minimum Wage Workers Been Left Behind?

In 1974 the minimum wage stood at $2.00 and equaled 45 percent of average wages in the economy. By 1993 the minimum wage had increased to $4.25 but had fallen to 35 percent of average wages. This erosion in the relative economic status of minimum wage workers has propelled the debate over minimum wages and even led to demands that the minimum be explicitly linked to other wages, rising whenever economy-wide wages increase. What this simple analysis neglects, however, are the massive changes that have taken place in the American workforce.

Over the last 20 years the baby boom generation has aged out of the entry-level workforce and moved into its prime earnings years (working to raise average wages, since age and earnings are positively associated). At the same time, American women have entered the workforce in greater numbers than ever before (working to lower average wages, since women earn less on average than men). Accounting for both of these effects is complicated by the increase in the fraction of the population with higher education (working to raise average wages)—those with college degrees now represent 24 percent of the workforce, compared to only 15 percent twenty years ago.

This concentration of more experienced and better educated workers in their peak earnings years has skewed measurement of average wages. Since workers' earnings rise with labor force experience, especially when they have college degrees, the effect has been to raise average wages. This effect is so strong that measured average wages would have risen even if each and every wage classification in the economy had remained unchanged over the last twenty years.

Consequently, had we in 1974 linked the minimum wage to the average wage, we would have seriously over-indexed the minimum wage by 1994. This strict indexing would require a minimum wage of $5.51 today, $1.26 over its current level. Controlling for <u>just</u> the three factors identified above—age, gender and education changes—demonstrates that we would have over-indexed the minimum wage by at least 120 percent.

As attractive as indexing the minimum wage to other wages appears, this report demonstrates that simplistic comparisons between wage levels in different segments of the economy ignore not only important *economic* effects—notably changes in supply and demand conditions—but that such compari-

sons suffer serious flaws from a failure to account for the massive changes in the characteristics of the workforce. The post-war baby boom—arguably the most significant demographic event of the 20th century—must rank first among these omissions.

Who Benefits from a Higher Minimum Wage?

Discussion of the distributional effects of the minimum wage have most often taken place in the context of the age of the workers. Recently, however, the debate has shifted to the family status of the workers. This paper provides the distribution of higher earnings from an increased minimum on these lines.

Beneficiaries of a Higher Minimum Wage:

Worker Living with Parent(s)	32.7%
Married Female Dual Earner	16.3%
Single Female	12.6%
Single Male	9.3%
Married Male Dual Earner	6.2%
Other Relative	4.9%
Married Male Sole Earner	5.0%
Single Mother	4.4%
Married Female Sole Earner	3.8%
Related Sub Family Member	3.7%
Unrelated Sub Family Member	0.8%

Almost one third of the added earnings from a $5.15 minimum wage would flow to workers (teen and other workers) living with their parents. Single parents would receive less than 5 percent. In contrast, single individuals without children living at home (not including those living with their parents) would receive more than 20 percent of the increased income. For every dollar of higher earnings that this minimum wage increase would bestow on single parents, $4.50 would go to single individuals and $6.80 would go to children and other workers living in their parents' home. In fact, children and other workers living with their parents would receive more than twice as much extra income as would *all* families dependent on a single minimum wage worker.

Conclusion

As Macpherson and Even show in this paper, simple comparisons between the minimum wage and other wages in the economy suffer by virtue of their simplicity. Any such comparisons must take into account the vast changes in the American workforce. We must adjust for changes in the composition of the workforce in much that same manner as we adjust for inflation. A policy which blindly indexed the minimum wage to other wages in the economy over the last two decades would have markedly over-indexed that wage.

The same data set that made it possible to understand the compositional changes in the workforce also provides the framework in which to analyze the distribution of benefits from a higher minimum wage. Although it has become fashionable to portray the minimum wage as a means of helping family heads, it is clear that few of the benefits flow to these parents, and even fewer flow to families dependent on the earnings of a single minimum wage worker.

About the Data

The data for this study are drawn from the 1974 through 1978 May Current Population Survey (CPS) and the 180 monthly CPS Outgoing Rotation Group (ORG) files for January 1979 through December 1993. An important advantage of the data sources are the large sample sizes. The approximate annual sample sizes are 40,000 for the May CPS and 180,000 for the CPS ORG files.

Carlos Bonilla
Employment Policies Institute Foundation

Introduction

In 1974 the federal minimum wage equalled 46 percent of average wages in the economy, falling to 35 percent in 1994. This relative decline has led to numerous initiatives that would link the minimum wage to other wages in the economy.[1] Even proposals which do not explicitly link minimum and average wages, such as President Clinton's call for a minimum wage of $5.15 an hour, have been defended as measures which simply reverse a growing tide of inequality that has hurt lower-paid workers. (A $5.15 minimum wage today would raise the ratio of minimum to average wages by about 5 percentage points.)

On the surface, linking entry-level wages to other wage levels seems to a be a valid proposition. The economy has historically demonstrated an ability to support a minimum wage that was a larger fraction of average earnings than it is today. Consequently, the casual observer may not expect the restoration of that historic relationship to cause the adverse employment consequences that opponents of higher minimum wages warn of. But, in its blind devotion to averages, this simplistic view of the wage structure fails to capture the fact that in a non-stable workforce the average wage is artificially skewed by changes in the composition of that workforce.

How can changes in the composition of the workforce skew simple measures of average wages? To anticipate the results presented later in this paper, consider the effects on average wages of the post-war baby boom, arguably the most significant demographic event in American history. In 1974, the leading edge of the baby boom was just reaching its late 20s[2], while the bulk of the baby boom had just entered the workforce. In that year roughly 25 percent of the workforce was aged 16-24 while 36 percent was aged 35-54. By 1993, however, the population had aged greatly. Now, 44 percent of the workforce was aged 35-54 and in its peak earnings years, while 16-24 year olds had shrunk to only 18 percent. This aging of the population changed the skill and experience level of the total workforce and markedly affected the measure of average wages.

When the bulk of the workforce moves into peak earnings years, the undeniable effect is to raise the average wage. (Note that this would be true even if absolute wages had remained unchanged in the intervening years.) Yet such a demographic shift tells us nothing about the relative well-being of other workers. If the population seems "richer" simply because it is older and earning more — both absolutely and relative to young workers — then an argument to index the minimum wage to average wages is effec-

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1 In 1995 Senators Ted Kennedy and Paul Wellstone introduced a bill (S203) to raise the minimum wage to $5.75, arguing that it would restore the minimum wage to "roughly half the hourly wage." Senator Wellstone reserved the option to re-introduce a bill he had introduced in the prior Congress (S562) which would have explicitly linked the minimum wage to equal half of average wages. (Congressional Record, January 11, 1995, page S801). The state of Massachusetts this year considered a measure (H4070) that would have linked the state's minimum wage to 50 percent of average non-agricultural wages in the state.

2 In 1974 the minimum wage was at its highest level relative to average wages.

tively an argument to speed up the aging process, that younger workers are entitled to the higher wages that older workers have earned through their continued presence in the workforce.

In this paper we examine the relationship between the minimum wage and average wages in the economy, but do so by controlling for the changes in the American workforce, changes in the age and gender distributions as well as the educational attainment of the workforce. These changes in the workforce reflect changes in "labor quality" and will be referred to as such in this paper.

Had we begun indexing the minimum wage to average wages in 1974 we would now have a minimum of $5.51 (it currently stands at $4.25). However, due to changes in labor quality, this would be a significantly over-indexed entry-level wage. Controlling for just the three factors identified earlier — age composition, education and gender changes — would reduce that indexed value from $5.51 to $4.82. That is to say, the minimum wage, under strict wage indexing, would be $1.26 higher than today, with 55 percent of that higher amount representing an over-indexing of the minimum wage. Sixty-nine cents of this increase would arise solely from ignoring the changes in the workforce. In effect, we would have over-indexed the minimum wage by 120 percent. The minimum wage, compared to its relative value against other wages, would be far too high. Moreover, even though the $4.82 minimum wage is derived from the constant labor quality index, it cannot be assumed that this level is the "proper" one for the minimum wage. Any determination along these lines must also reflect changes in the relative demand and supply conditions for workers at this pay level, a topic beyond the scope of this paper.

In conjunction with the Earned Income Tax Credit (EITC), a $5.51 minimum wage would translate into an effective minimum wage of between $6.53 and $6.77 (for families with one, or more than one, child respectively). In 1996 these effective minimum wage rates would increase (due to scheduled increases in the EITC) to $6.53 and $7.20, respectively.

In addition, this study takes issue with the efficacy of a policy that increases the minimum wage to improve income distribution. We demonstrate that the majority of benefits from a higher minimum wage accrue to children living with their parents. Only a small portion of an increase to $5.15 would accrue to single parents (less than 5 percent) or to married couples with a single earner (less than 9 percent).

Finally, this study also takes issue with the desirability of automatically raising the minimum wage with an indexing mechanism. Assuming that the objective of minimum wage policy is to balance the anti-poverty effects against the potential loss of employment, we argue that the discretionary balance between higher wages and employment losses can be overwhelmed under a policy of minimum wage indexing.

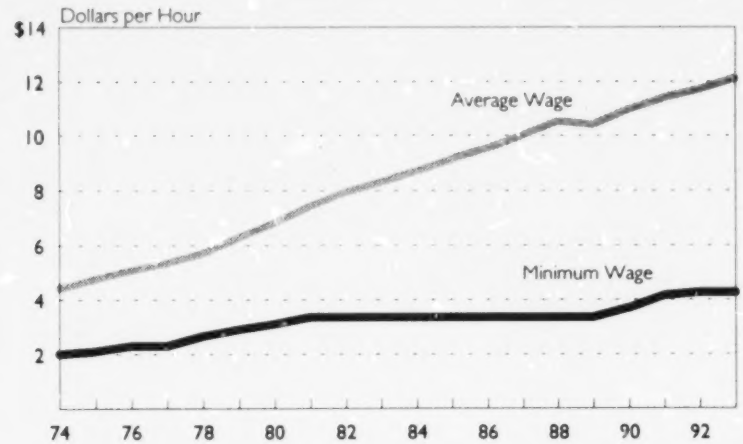
A Comparison of the Minimum Wage Since 1974 With and Without Indexing

In Figure 1, the minimum and average wages are presented for the years 1974 through 1994. Between 1974 and 1993, the minimum wage increased from $2.00 per hour to its current level of $4.25. Over the same period, the average wage in the economy rose from $4.35 to $12.11. In Figure 2, we present the ratio of the minimum to average wage (RMA) for each year between 1974 and 1993. The ratio started at .46 in 1974 and, due to six separate increases in the minimum wage between 1974 and 1981, the RMA was virtually unchanged. Between 1981 and 1989, the minimum wage was frozen at $3.35 and the RMA fell to .32. Between 1989 and 1993, the minimum was increased to its new level of $4.25, generating an RMA of .36 in 1994.

To understand the consequences of indexing the minimum wage to the average wage in the economy, we calculate what the minimum wage would be for each year since 1974 if the RMA were held at its 1974 value of .46. The results, presented in Figure 3 and contrasted with the actual minimum wage, indicate that the minimum wage in 1993 would be $5.51 if indexing had started in 1974.

Figure 1

The Minimum and Average Wage for the U.S. Workforce



One consequence of the decline in the RMA that occurred during the 1980s is that the percentage of workers earning the minimum wage declined precipitously during the decade. In Figure 4a, the percentage of workers earning the minimum wage is presented for the years 1974 through 1993. In 1974, 6.0 percent of the work force was earning the minimum wage, and 14.7 percent was earning the minimum wage or less. The 8.7 percent earning less than the minimum could arise from workers in industries not covered by minimum wage laws, non-compliant firms in covered industries, or measurement error in the wage variable. Despite the fact that the RMA was stable from 1974 to 1981, those earning the minimum fell to 4.5 percent by 1981, and the percent earning the minimum or less fell to 10.3 percent. This decline in the percentage of workers earning the minimum or less might indicate that the earnings commanded by workers at the bottom end of the skill distribution was rising faster than average wages in the economy during this period. Alternatively, it may indicate that the number of workers at the bottom of the skill distribution was shrinking during the 1970s. This might be due to a declining labor force participation rate among the less skilled, or the movement of the leading edge of the baby boom moving out of its teenage years.[3]

Figure 2

The Ratio of the Minimum to the Average Wage

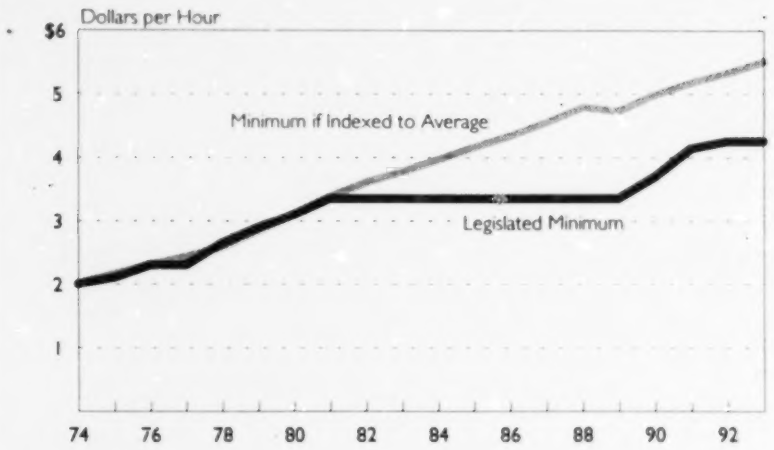
Between 1981 and 1993, the percentage of workers earning the minimum wage fell to a meager 1.9 percent of the

3 Juhn (1992) presents evidence that the labor force participation rate has fallen among less educated males during the 1970s and 1980s.

work force. The percentage earning the minimum or less fell to 4.4 percent. This tremendous decline in the percentage of the work force earning the minimum wage could be due to either the decline in the minimum relative to the average, a decline in the number of workers at the bottom end of the skill distribution, or further improvements in the earnings commanded by workers at the bottom end of the skill distribution. Given the wealth of recent evidence indicating the demand for less-skilled workers fell during the 1980s, however, it is not likely that the last explanation is the source of the decline.[4] Figure 4b shows this data in terms of the number rather than percentages of workers.

Figure 3

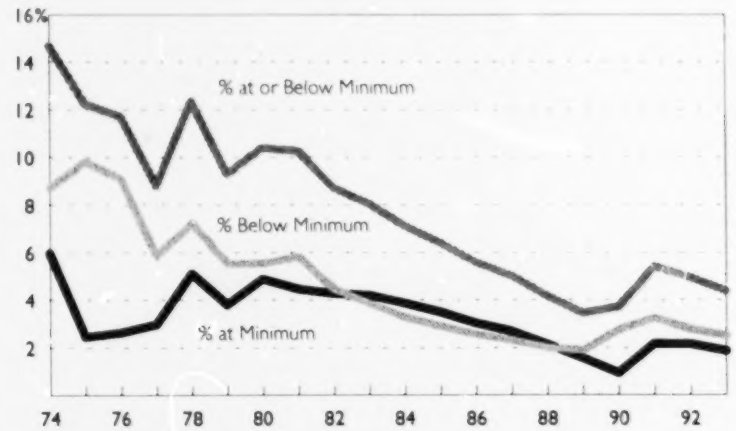
The Minimum Wage if Indexed to the Average Wage



To isolate the effect of a declining RMA on the percentage of workers earning the minimum during the 1980s, we calculate the percentage of workers that would earn the minimum if it had been indexed beginning in 1974. For example, in 1993, the minimum wage would have been $5.51 if indexing had begun in 1993. To compute how many people would be at the minimum with indexing, we calculate the percentage of workers in 1993 that have an hourly wage greater than or equal to the actual minimum of $4.25, but less than or equal to the indexed minimum of $5.51. A similar calculation is made for each year back to 1974. The results are in figures 5a-b.

Figure 4a

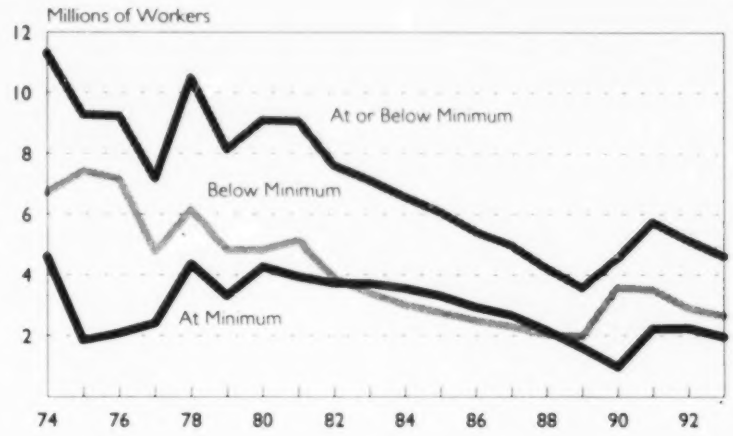
Percentage of Workforce Earning the Minimum Wage or Less



4 See Levy and Murnane (1992) for a review of relevant studies.

Figure 4b

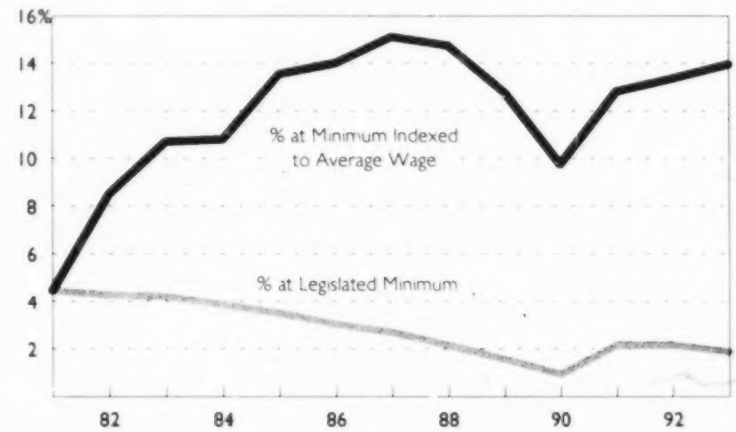
Number of Workers Earning the Minimum Wage or Less



The consequences of indexing the minimum for the percentage of workers earning the minimum is quite striking. If the 1993 minimum wage were increased from the legislated $4.25 to an indexed value of $5.51, the percentage of workers earning the minimum wage would increase from 1.9 to 14.0 percent. The percent earning at or below the minimum would increase from 4.4 to 16.5 percent. This implies that the number of people earning the minimum would rise from 2.0 million to 14.7 million. The number at or below the minimum would increase from 4.6 million to 17.3 million. This considerable increase in the number of workers at or below the minimum has important implications for the cost of indexing the minimum. For example, we estimate that increasing the minimum wage from $4.25 to $5.51 would cost firms $20.3 billion per year. This assumes that increasing the minimum wage does not cause any employment losses, that minimum wage workers are employed 4.2 weeks per month at their reported weekly hours, and that those earning less than the minimum wage realize a wage increase equal to the increase in the minimum wage. Alternatively, if we assume that only those earning the minimum wage would realize an increase in earnings and that all those below the minimum are unaffected, the cost of increasing the minimum wage falls to $14.7 billion.

Figure 5a

Percentage of Workforce at Actual versus Indexed Minimum Wage

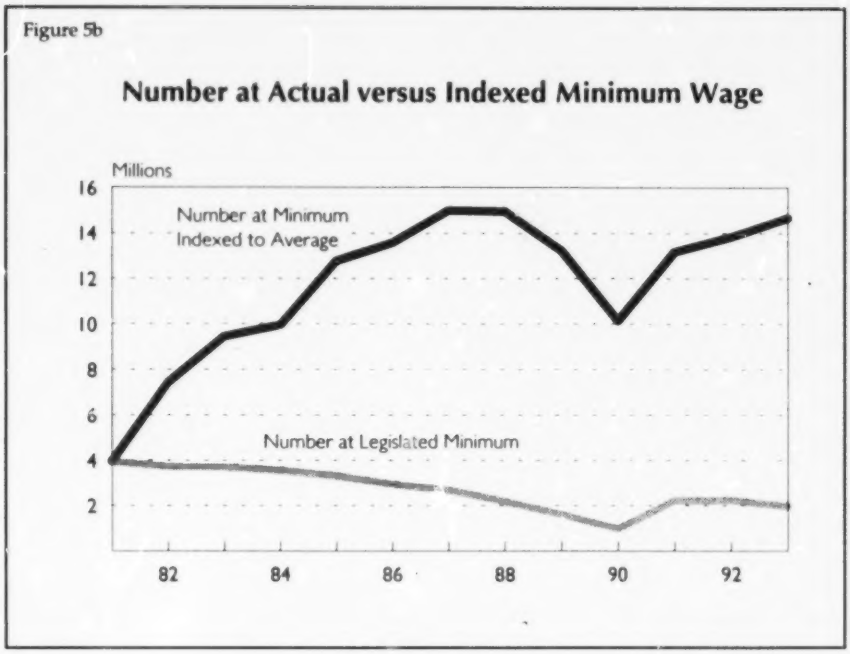


The Impact of Improving Labor Force Quality on an Indexed Minimum.

To illustrate the significance of improving labor force quality on the average wage, we compute what wages would be for each year since 1974 if labor force quality were frozen at its 1974 level, but the

wage structure underwent the observed changes. To control for labor force quality, we divide the labor force into 7 age groups, 4 education groups, and the two genders.[5]

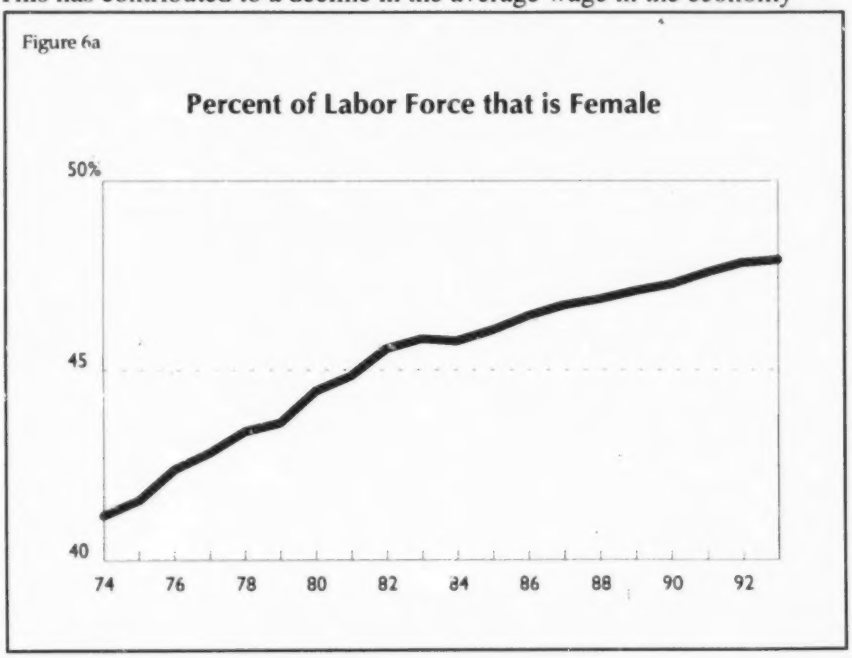
Figure 5b



Before turning to the results of our simulation, it is useful to consider how the labor force has changed over time and how the wages of the various sub-groups compare. The results are presented in figures 6 through 8.

In figure 6a, it is clear that the percentage of the work force that is female has been rising over time. It started at 41.1 percent in 1974 and rose to approximately 47.9 percent by 1993. This has contributed to a decline in the average wage in the economy since, as seen in figure 6b, women earn less than men on average. The impact of increased female participation on the average wage, however, has been dampened somewhat by the fact that women's wages have risen relative to men over the past two decades. Between 1974 and 1993, women's wages rose from 66 to 77 percent of men's wages. Several recent studies have examined the explanations for the convergence of male and female wages over time.[6]

Figure 6a

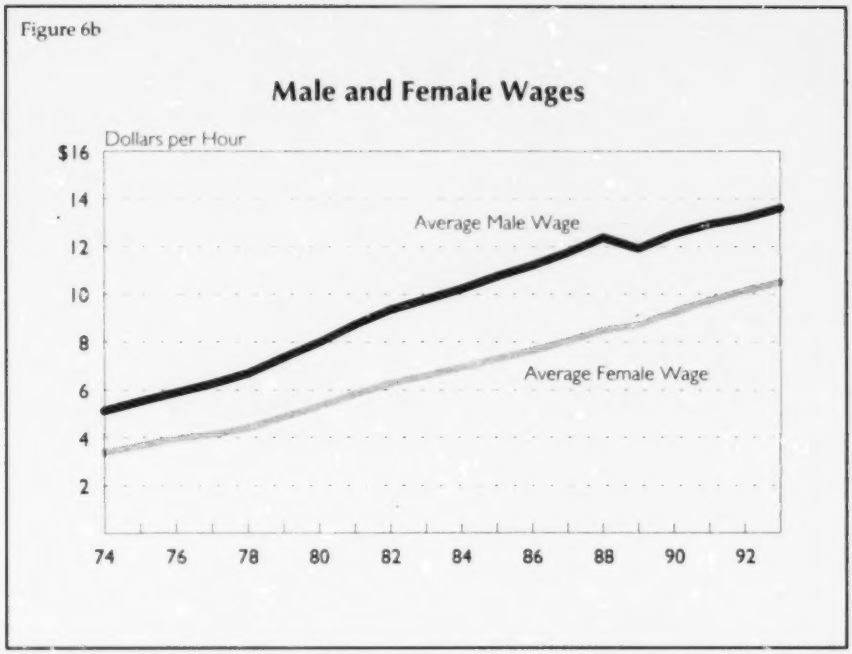


In figure 7a, it is made apparent that the average

5 The seven age groups are 16-19, 20-24, 25-34, 35-44, 45-54, 55-64, and 65 or over. The education groups are according to years of education: less than 12, 12, 13-15, and 16 or more.

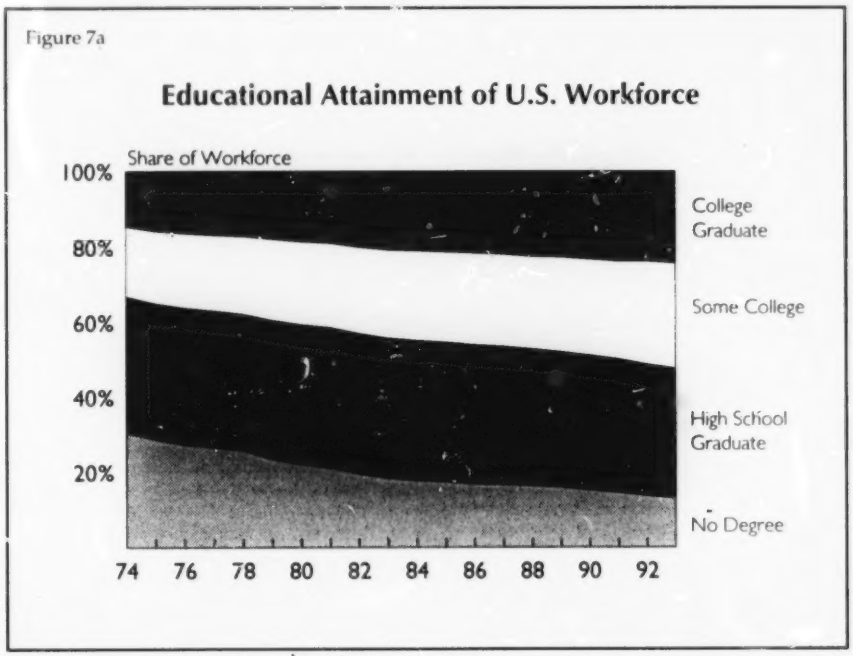
6 See, for example, O'Neill and Polachek (1993) and Blau and Kahn (1994), Wellington (1993), and Macpherson and Hirsch (forthcoming).

Figure 6b



level of education in the economy is improving. Between 1974 and 1993, the percent of the labor force with less than 12 years of education fell from 30.7 to 13.4 percent and the percent with exactly 12 years of education fell slightly from 36.2 to 34.5. In contrast, the percentage of workers with 13-15 years of education rose from 18.5 to 28.2 and the percent with 16 or more years of education rose from 14.7 to 24.2 percent. This has very clearly contributed to an increase in the average wage in the economy since, as shown in figure 7b, wages rise with education. It is also worth noting the growing returns to a college degree. Between 1974 and 1993, a high school drop-out's wage fell from 56 to 43 percent of a college graduate's wage. This is consistent with the aforementioned evidence that the returns to skill are increasing over time. Moreover, the rising returns to education will magnify the effect of improving educational levels on the average wage in the economy.

Figure 7a

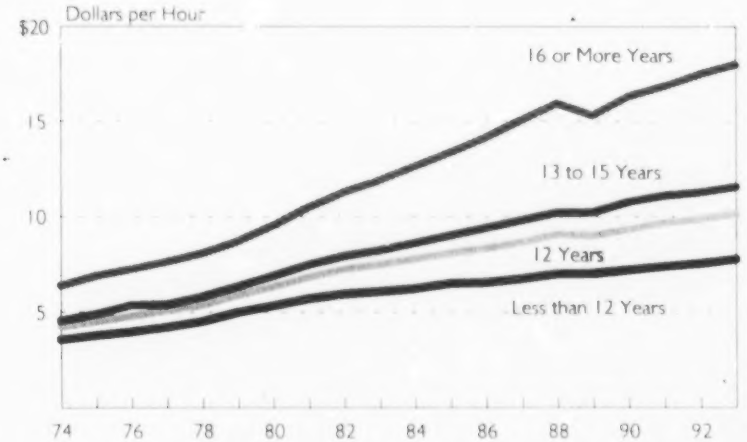


In figure 8a, the age distribution of the population is presented for four groups: 16-24, 25-34, 35-54, and 55 or over. The impact of the baby boom and subsequent baby bust is apparent in the diagram. Between 1974 and 1993, the percent of the work force 24 or under fell from 24.9 to 16.4 percent. Also, the percent of workers aged 35-54 rose from 36.1 to 44.8 percent. The other two age groups were relatively stable over the period, changing less than 3 percentage points each. The declining numbers of young (16-24) workers and the rising numbers of experienced (35-54) workers has clearly contributed to an increase in the average wage since, as illustrated in 8b, wages tend to rise with age.

In the American economy, however, all of these forces have changed simultaneously. Not only has the portion of the workforce with higher education increased, so has the overall age structure. Since increases in age widen the gap between the earnings of education groups, these two effects magnify each other. To determine the effect of these compositional changes on the wage rate, we calculate a "constant quality" wage rate. Such a calculation permits us to isolate the effect of age, gender and education changes, as well as the interaction among these components, from changes in the underlying wage structure.

Figure 7b

Wage Rates by Educational Attainment

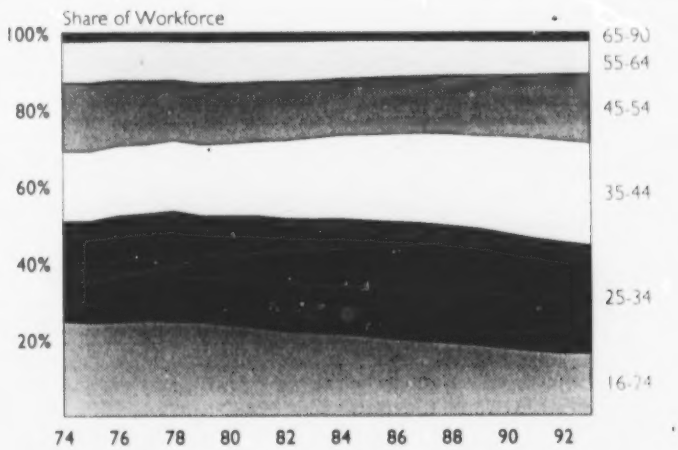


To perform the calculation, we estimate what the average wage rate for the entire economy would be in a given year if the average wage for each subgroup of the population were equal to the observed wage for that year, but the relative size of the sub-groups were frozen at the 1974 level. That is, define w_{it} as the wage rate for group i in year t and n_{it} as the percentage of the workforce in group i during year t. Then the average wage for the economy is:

$$W_t = \sum_{i=1}^{56} w_{it} n_{it}$$

Figure 8a

Age Distribution of U.S. Workforce



There are 56 groups (2 sexes times 4 education groups times 7 age groups) for which average wages are computed. To calculate the constant quality wage rate, we hold the relative size of the 56 groups at their 1974 levels. That is, the constant quality wage rate is calculated as:

$$\bar{W}^*_t = \sum_{i=1}^{56} \bar{w}_{it} n_{i74}$$

A comparison of actual and constant quality wages is provided in figure 9. (Given that the constant quality wages are calculated holding labor quality at the 1974 level, the actual and constant quality wages are both $4.40 in that year.) By 1993, the average wage in the economy had risen to $12.11 whereas the constant quality wage rate rose to only $10.61.

Finally, we index the 1974 minimum wage to the constant quality average wage. This series is contrasted with the legislated minimum and the minimum indexed to the actual wage in figure 10. Between 1974 and 1993, indexing to a constant quality wage rate causes the minimum to increase from $2.00 to $4.82 between 1974 and 1993; indexing to the average wage causes an increase to $5.51 by 1993. Hence, a failure to account accurately for the effect of improving labor market quality on average wages would have caused the minimum to increase by $.69 more than desired, over-indexing by 120 percent.

To determine the cost of over-indexing, we calculate how much it would cost employers to increase the minimum from $4.25 to $4.82, and from $4.82 to $5.51. The calculation imposes the same assumptions as earlier (i.e., no employment effects). If those earning between $4.25 and $4.82 have their wages increased to $4.82, it would cost employers $3.5 billion per year. On the other hand, increasing the minimum wage to $5.51 increases the cost to 14.7 billion. Thus, the $.69 increase in the minimum that would have resulted from a failure to account for improving labor force quality would have cost employers an additional $11.2 billion annually.[7]

In summary, improving labor force quality has been an important source of the growth in average wages over the past 20 years. Indexing the minimum wage to the average wage would cause the balance between employment losses and income distribution to be distorted whenever demographic changes distort the average. Moreover, the cost to business of relatively modest increases in the minimum wage are quite substantial.

Who are the Beneficiaries of a Higher Minimum Wage?

One of the most often-cited arguments in favor of increasing the minimum wage is that it would benefit the "working poor." While it is true that a worker earning the minimum wage would have a fairly low standard of living if that were one's only source of income, there may be less concern for such workers if there are other earners in the family. Hence, to understand the validity of the argument that an increase in the minimum wage would help combat poverty, it is important to determine what types of people hold minimum wage jobs, and what types of households they reside in.

To address this issue, we first calculate the age distribution of minimum wage workers (those earning the minimum wage) for 1993. The results, presented in figure 11, reveal that the majority of minimum wage workers are young. In fact, 35.3 percent of minimum wage workers are between 16 and 19 years of age, and an additional 20.4 percent are between 20 and 24 years of age. Thus, 55.7 percent of the minimum wage work force is 24 or younger.

In figure 12, we provide an alternative perspective on the distribution of beneficiaries by classifying workers according to family status. In this example, we break the minimum wage work force into the following 12 sub-groups.

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7 If one makes the alternative assumption that those earning below the minimum will receive a wage increase equal to the size of increment in the minimum, the cost of raising the minimum is $6.1 billion for an increase to $4.83, and $20.3 billion to $5.51.

In 1993, 42.2 percent of minimum wage workers were children and workers of any age living with parents. The next largest category of minimum wage workers (12.9 percent) were married women with employed husbands. Single women and men without children in the household comprise 12.7 and 7.5 percent of minimum wage workers. Single mothers and single fathers constitute only 3.8 and 0.4 percent of minimum wage workers.

Family Categories

Single Male	Male living by himself, or male living with roommate(s). The roommates may or may not be related to the male. He cannot be living with his parent(s).
Single Female	Female living by herself, or female living with roommate(s). The roommates may or may not be related to the female. She cannot be living with her parent(s).
Single Mother	Single female living with one or more of her own children.
Single Father	Single male living with one or more of his own children.
Married Male, Sole Earner	Married male with spouse present. Spouse is not employed.
Married Female, Sole Earner	Married female with spouse present. Spouse is not employed.
Married Male, Dual Earner	Married male with spouse present. Spouse is also employed.
Married Female, Dual Earner	Married female with spouse present. Spouse is also employed.
Child at home	Child living at home with one or both parents. May be of any age.
Other relative	Relative other than own child living with primary family. Examples would include Cousins, Uncles, Aunts, Nephews, Grandchild, etc.
Related Sub-Family Member	Member of blood-related subfamily. An example would be if an Uncle had a child and they were living with the primary family.
Unrelated Sub-Family Member	Member of unrelated subfamily. For example, if a maid had a child and they were living with the primary family.

In figures 13a-c, the beneficiaries of a minimum wage increase are presented according to both family type and the level of the minimum wage. In 13a, we present the consequences of increasing the minimum wage to the minimum, indexed with respect to the constant quality wage of $4.82. In figure 13b, the calculation is presented for an increase to $5.15. Figure 13c presents the calculation for an increase to $5.51. Each calculation adjusts for the fact that work hours differ across the various subgroups and that the numbers of workers between the legislated and proposed minimum differs.

Assuming no employment effects, a minimum wage increase to $4.82 would cost employers $3.5 billion per year. Of this cost, 34.6 percent would go to children and other workers living with their parents. The next largest recipient groups would be married women whose husbands work (15.3 percent),

Figure 8b

Wage by Age Group

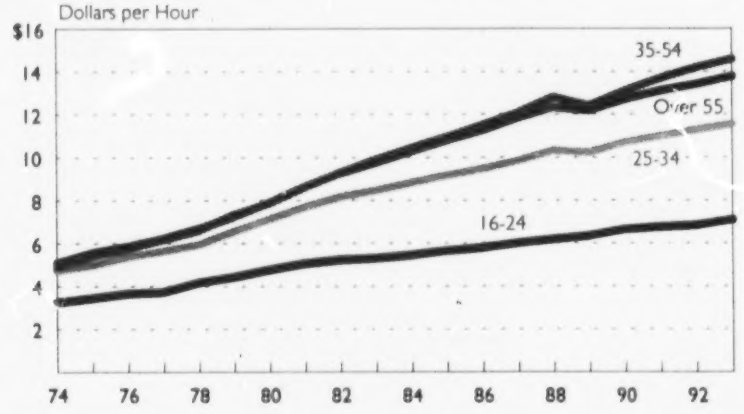
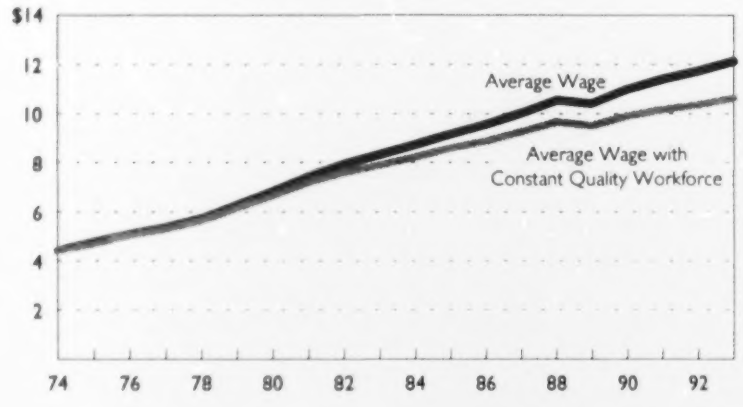


Figure 9

The Effect of Changing Labor Force Composition on the Average Wage



Note: "Constant quality workforce" assumes constant distribution by age, education and gender.

single women without children (12.7%), and single men without children (8.8%). Single mothers would receive only 4.4 percent of the benefits.

If the minimum wage were increased to the $5.15 currently proposed by the Clinton Administration, the cost increases to $7.7 billion. The distribution of beneficiaries by family type is quite similar to that mentioned above. The largest groups of beneficiaries are workers living with their parents (32.7%), married women whose husbands are employed (16.3%), single women without children (12.6%) and single men without children (6.2%). Again, single mothers receive only a small portion of the benefits (4.4%).

Finally, if the minimum wage had been indexed to the average wage beginning in 1974, the current minimum would be $5.51. The cost of increasing the minimum to $5.51 would be $14.7 billion annually assuming that those currently earning less than the minimum receive no wage gains from the higher minimum. The distribution of earnings gains across the different types of families is virtually unchanged from the increase to $5.15, though obviously, the dollar values of the gains are larger for each group.

Does Indexing Satisfy the Objectives of Minimum Wage Policy?

In recent debates regarding the desirability of increasing the minimum wage, it becomes clear that the overriding objective of minimum wage legislation is to fight poverty. However, the efficacy of such legislation in fighting poverty is controversial for at least two reasons. First, a higher minimum wage can cause employment losses. Thus, while some workers will benefit from a higher wage rate, others will lose their jobs. This point has received a good deal of attention in the past several years among economists, and there is a good deal of disagreement on the magnitude of the employment effects.[8]

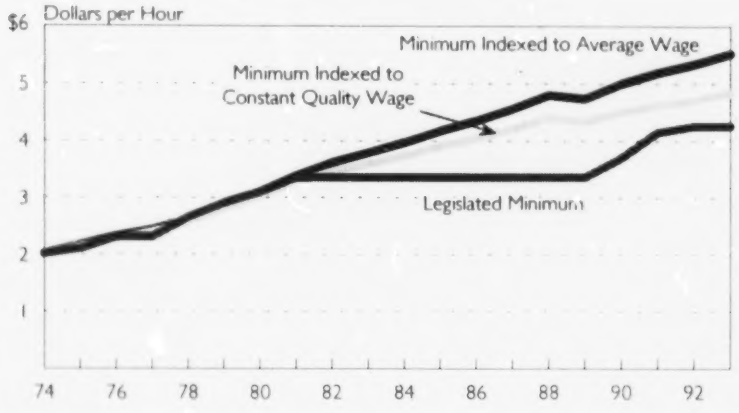
A second controversy regarding the efficacy of a higher minimum wage in fighting poverty is that many minimum wage workers are members of families that are not in poverty. For example, Horrigan and Mincy (1992) demonstrate that when families are categorized into income quintiles based on family income, minimum wage workers are evenly distributed across the five quintiles. Hence, a higher minimum wage is not very effective at targeting low income families.

8 Some recent studies on the impact of the minimum wage on employment include the work by Katz and Krueger (1992), Card (1994a, 1994b), Neumark and Wascher (1992), Neumark and Wascher (1995), and Taylor and Kim (1995).

When considering the desirability of indexing the minimum wage to the average wage in the economy, one must consider the trade-offs faced when increasing the minimum. Presumably, the task of legislators is to balance the positive effect on earnings for less skilled workers against the possible employment losses. Indexing to average wages in the economy may keep a balance between these concerns, if the population is stable in its characteristics and demand changes are uniform across different workers. That is, if there is an increase in labor demand in the entire economy, then the employment losses from a given level of the minimum wage would be reduced. Thus, to keep the appropriate balance, legislators would choose to increase the minimum. This automatically occurs with indexing to the average wage, since an increase in the demand for labor will cause the average wage to rise in the economy.

Figure 10

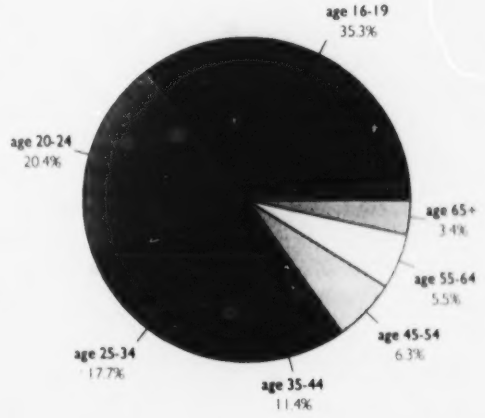
The Effect of Changing Workforce Quality on an Indexed Minimum



Similarly, if there is an increase in labor supply in the economy, the employment losses from a given level of the minimum wage are enlarged. To compensate, legislators should cut the minimum. Again, this automatically occurs with wage indexing since the increase in labor supply causes a reduction in the average wage.

Figure 11

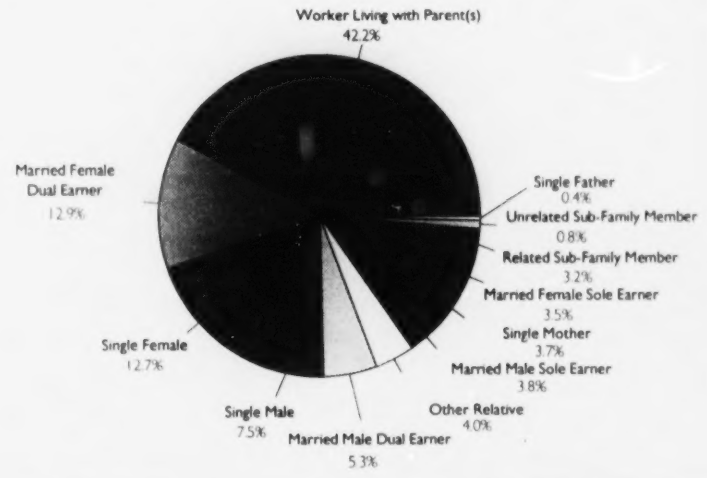
The 1993 Age Distribution of Minimum Wage Workers



At the same time, it is important to recognize that indexing will fail to balance the competing concerns of employment vs. earnings under several circumstances. First, the above discussion presumes that changes in the average wage reflect equal changes in labor supply or demand for all skill levels. If, however, labor demand is rising for high skill workers but falling for low skill workers, it is entirely possible that the average wage will be unaffected. Nevertheless, obtaining the appropriate balance between employment losses and income distribution would necessitate a cut in the minimum wage. In fact, there

Figure 12

The 1993 Distribution of Minimum Wage Workers by Family Type



is substantial evidence that the demand for low skill workers fell during the 1980s while it increased for high skill labor.

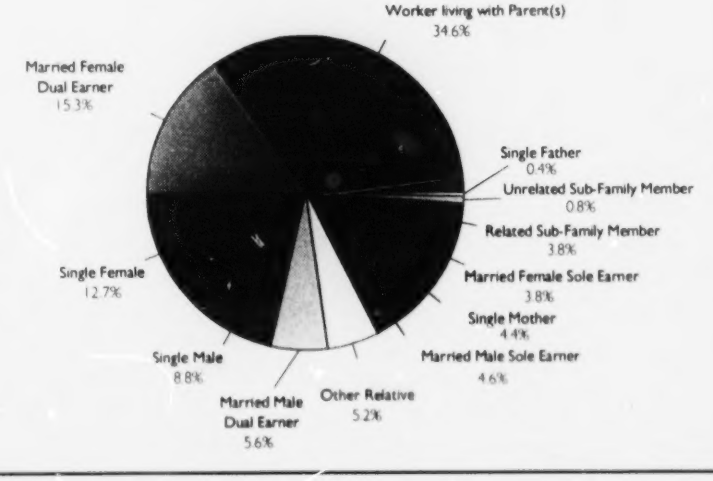
A second situation in which indexing to the average wage fails is if the supply and demand of low skill workers are unchanged, but the qualifications of the more skilled workers improve over time. This causes the average wage in the economy to rise over time but there is no change in the balance between employment losses associated with a minimum wage increase. Thus, if average labor force quality is rising but the number of low skill workers is unchanged, minimum wage indexing will generate an undesirable increase in the minimum wage.

Summary and Conclusions

The consequences of indexing the minimum wage to the average wage in the economy have been examined. If indexing had begun in 1974 and the ratio of the minimum to average wage been maintained at .46 since then, we estimate that the minimum wage would currently be $5.51. Assuming that this higher minimum wage generates no employment losses, this would cost businesses between 14.7 and 20.3 billion dollars annually. Moreover, it would increase the percentage of the work force that earns the minimum wage from 5.9 to 14.0 percent of the work force.

Figure 13a

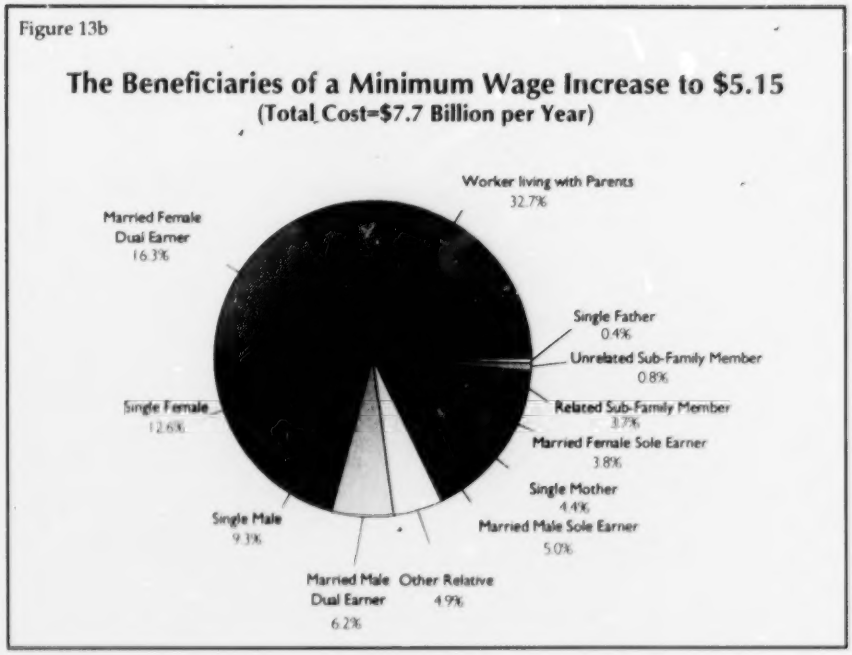
The Beneficiaries of a Minimum Wage Increase to $4.82
(Total Cost=$3.5 Billion per Year)



Under restrictive conditions, minimum wage indexing can maintain a balance between the positive effects of a higher minimum wage on income distribution and the negative effects associated with employment losses. One

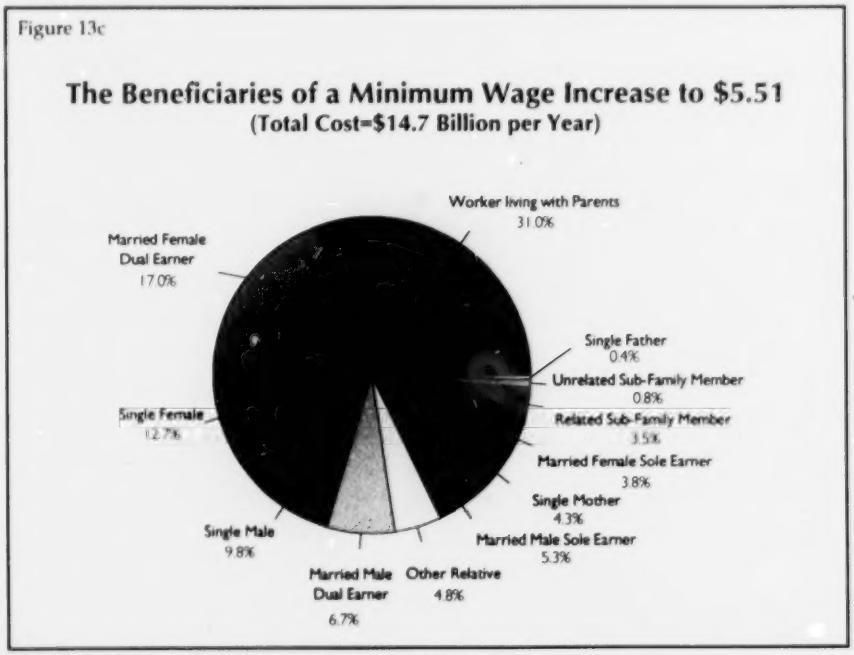
case in which indexing will create an imbalance between the two effects is when labor force quality is improving over time. In particular, minimum wage indexing will cause the minimum wage to increase too much when labor force quality is improving. Between 1974 and 1993, we estimate that failure to account for the effect of improving labor force quality on the average wage would have caused the minimum wage to over-adjust by at least $.69. Moreover, the additional $.69 would have cost businesses between 10.2 and 14.2 billion dollars annually.

Figure 13b



The effect of increasing the minimum wage on poverty in the United States could be quite minimal. In fact, we estimate that 42 percent of minimum wage workers are workers living with their parents. An additional 13 percent are married women whose husbands are employed, and 21 percent are single women or single men without children in the household. Only 3.8 percent of minimum wage workers are single women with children. Hence, increasing the minimum wage may very well increase the incomes of high and low income families by similar amounts.

Figure 13c



ABOUT THE DATA

The data for this study are drawn from the 1974 through 1978 May Current Population Survey (CPS) and the 180 monthly CPS Outgoing Rotation Group (ORG) files for January 1979 through December 1993. An important advantage of the data sources are the large sample sizes. The approximate annual sample sizes are 40,000 for the May CPS and 180,000 for the CPS ORG files.

The sub-sample of the CPS data employed here includes wage and salary workers that are 16 or older. Observations with missing data on usual weekly earnings, usual hours worked per week, education, gender, or age are deleted from the sample. For hourly workers, the hourly wage rate is calculated as the maximum of two available wage measures: the hourly wage reported by the worker, or the hourly wage calculated by dividing usual weekly earnings by usual hours worked per week. The reason we do not rely solely on the hourly wage rate reported is that it excludes tips, commissions, and overtime and thus, average hourly earnings would be understated. We take the maximum of the two measures to reduce measurement error.[9] Also, we are forced to impute an hourly wage rate for salaried workers that are not paid by the hour.

Prior to the 1989 CPS, weekly earnings are top-coded at $999. Since 1989, earnings are top-coded at $1,923. For workers at the cap, we assign a mean earnings estimate based on the assumption that the upper tail of the earnings distribution follows a Pareto distribution. The parameters of the Pareto distribution are estimated separately by year and gender. The source for these estimates is Hirsch and Macpherson (1994).

All estimates of wages and employment are calculated using the weights available in the CPS. For 1979 forward, the ORG earnings weights are utilized. For the years 1974 through 1978, the population weights are used, since earnings weights are not included. A potential incompatibility exists between the population weights and the earnings weights when calculating employment level estimates since the population weights are not adjusted for missing values on earnings and hours but the earnings weights are altered for this problem. As a solution, we generate employment estimates from the 1974 to 1978 CPS using population weights but make no deletions for missing observations on weekly earnings or weekly hours. To calculate the earnings estimates, we use population weights appropriately inflated to reflect the deletion of observations with missing data on earnings or hours.

9 Card (1992a) utilizes the same technique in his minimum wage study.

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